

ONTARIO FISH AND WILDLIFE REVIEW

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COVER

Our cover photograph by Mr. G. Smith of Morrisburg shows migrant Canada geese leaving the fields of the Upper Canada Migratory Bird Sanctuary for open water (See report by Harry A. McLeod in this issue).

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"THE AGE OF ECOLOGY"

Ecology is a branch of science which deals with the relationship between living things and the world around them, the earth, air, water, soil and other living things among which they exist. Every organism has some effect on its environment. It takes in food, air and water and deposits waste products. It may, itself, be food for other organisms. The materials from which living organisms are made are taken from the environment and will ultimately be returned to it.

In a recent article, Stewart Udall, U.S. Secretary of the Interior, suggested that the period in which we now live may one day be called the Age of Ecology. In the long view of history, something much more definitive than space and nuclear technology may characterize this period. Mankind has reached a level of population and achieved a degree of technological development which makes it possible for him to change his environment on a scale never before known. What he does in space may be far less important, in the long run, than what he does to the earth, air, water, plants and animals which support his life on this planet.

Up to now, man's efforts to make himself comfortable on the earth have had little permanent effect on its face; in fact, he has had to work continually to keep nature at bay.

Nature is quick to leap into any untended gap in her defences. A bush road, unused for a couple of years, is a mass of greenery. Even an event as drastic as a forest fire is repaired in time. Super highways and shopping plazas, when examined from the point of view of a decade, or even a lifetime, may appear climactic forms of land use, but a natural system capable of reducing solid granite to soil makes relatively short work of concrete and asphalt, as the annual maintenance costs on highways show.

In recent years, however, man's technology has begun to show side-effects which may be of profound significance. The by-products of nuclear tests appear oceans and continents away from their point of origin. Billows of foam appear on watercourses. Insects develop a resistance to pesticides which were effective in previous seasons. These are occurrences which lack the drama and urgency of a rocket launching. But they are symptoms of basic and irreversible changes in the natural community in which man lives and from which he derives his support. We know that radioactive elements can change the basic building blocks of living cells. We know that the waste products of technology can change the fauna and flora of our water systems, can cause them to silt, and can change their chemical characteristics if the process continues.

We know that living organisms develop adaptations which enable them to survive conditions of adversity, and that complex ecological reactions are set up when a

significant portion of the living community is wiped out. We do not know the end results of these various processes because we have not given consideration to anything beyond the immediate benefit.

It is the job of the ecologist to predict and interpret the effect on the natural community of changes which may occur in some part of it. Man has now begun to create permanent changes in the natural community in which he lives and which supports him. Unless he is able to predict the ultimate effect of these changes and govern himself accordingly, he may find that the natural community will no longer support him in the style to which he is accustomed. If this is not the age of ecology, history may one day conclude that it should have been.

THE ANGLER'S LIFE

*Oh! The angler's life is a life of peace.
By the stream and the lake, he can find release
From the trials and cares and incessant strife
Of civilization's madcap life.
In the cool of the wood, he can rest and dream
Or eavesdrop on gossipy woodsy stream
Where the trail leads down to gravelly brink—
At dusk see the doe and fawn at drink.
He may leisurely fish and apply his creed
That he take not more than his frugal need.
Then he trudges homeward, the stars as guide,
With his body and soul fresh, purified.*

*Oh! The angler's life is a life of love
For the fish and the beasts and the wings above.
He studies creation's incredible plan
While he grieves for the criminal waste of man—
The fire-swept forest, depleted hill,
The dried out stream where the whip-poor-will
Was wont to call in the evening gloom
Ere greed and carelessness spelt his doom;
And he strives to show to the blinded eyes
The tawdry worth of their golden prize.
"Oh Father", he prays for the greedy few,
"Forgive — they know not what they do."*

W.M.P. Patrick (1893-1961)

REVIEW is indebted to Norman D. Patrick, Fish and Wildlife Supervisor in Kemptville Forest District, for permission to publish some of the last verses written by his late father.

THE CANADA GEESE OF LAKE ST. LAWRENCE

*By Harry A. McLeod
Biologist, Kemptville Forest District*

Fronting Lake St. Lawrence between Morrisburg and Cornwall is a six-mile strip of land and marsh known as the Upper Canada Migratory Bird Sanctuary. Located within the St. Lawrence Parks, the sanctuary encompasses a wide variety of tourist attractions. To the west is Crysler Memorial Park with its finely mowed lawns, lagoons, historic sites, Upper Canada (Pioneer) Village, a Golf Course, picnic areas and beaches. The eastern part contains a Canada goose management area.

The Park land in this area was initially acquired by the Ontario Hydro-Electric Power Commission as part of the St. Lawrence Seaway and Power Project and was subsequently transferred to the Ontario St. Lawrence Development Commission for development as a recreation area.

With the realization that vast areas of shallow water would result from the flooding of the power pool in July of 1958, Provincial and Federal authorities began casting an eye to the possibility of developing the area for waterfowl. A survey to determine the waterfowl potential was conducted shortly after flooding. The survey group recommended that two shallow bays north of Number 2 highway be developed as a waterfowl area. Their report states, in part: "Most of the seaway and Park area will be suitable for hunting and could be hunted without prejudice to wildlife or to the enjoyment of the area by non-hunters. The creation of a large public hunting area of this sort is a noteworthy event in southern Ontario

where there is a shortage of public hunting areas, especially marshland."

Early that fall, a meeting was held between Federal and Provincial Government agencies to determine what steps should be taken to develop wildlife in the Parks. A goose management area was located in the eastern portion of the present sanctuary. A year later, this was extended to the existing westerly limit to include Crysler Memorial Park.

In developing fish and wildlife in the Parks, advice and help was sought and obtained from many sources including Federal and Provincial Governments, sportsmen's clubs, civic groups and private individuals. In October, 1959, representatives of the St. Lawrence Development Commission, Department of Lands and Forests, Canadian Wildlife Service and sportsmen's clubs were formed into a Fish and Wildlife Advisory Committee. The first task of the committee was to prepare a fish and wildlife management plan. This was completed in January, 1960, and laid the basic foundation of objectives and management requirements upon which future plans could be built.

Waterfowl management work began in June, 1959, when 55 wild-caught, wing-clipped Canada geese arrived in a shipment from Bombay Hook, Delaware. In addition, eight were obtained from the game farm at Codrington, Ontario. These geese were to serve temporarily as a decoy flock to attract migrants to the area and would be released the following spring. While spending a lei-

surely summer in the sanctuary, they would grow new flight feathers, eventually join other migrants south and, it was hoped, return to the Parks in following years bringing new recruits with them. In the meantime, they would be kept and fed in a large, newly erected fence enclosure, one end of which contained a pond.

When the original flock was released the following spring, they were replaced by fifteen mated pairs from Michigan. These geese would serve as the nucleus of the areas breeding population as well as a decoy flock.

The enclosure was found to be too small for the fifteen breeding pairs, and a great deal of fighting occurred until after the young had hatched. A second pen was added. Another problem was the food ration. Goslings raised in the pens were much smaller and in poorer condition than naturally hatched birds from adjacent areas. This was remedied by changing the diet.

Out of the sixty eggs laid that spring, only twelve goslings were hatched; three died and five disappeared, leaving only four. With more space and a better ration, the pen production in following years ranged between fifteen and twenty goslings.

Few of the original flock remain. Some were able to fly and have since departed. Others being pinioned (tip of the wing removed to render them flightless) have remained, but in general the flock diminished with deaths from natural causes and disease and, on two occasions, by vandals.

Last spring, in an effort to replenish the decoy flock, twenty-one eggs were taken from five nests and placed in a home-made incubator. From that moment until the goslings were fully fea-

thered-out some five months later, they required continuous daily attention, for in rearing these birds one must assume the role of a parent and attend their every need. When raised by people, they see these people as their parents and, if given a chance, will follow them everywhere.

And how do they react to seeing adult geese for the first time? Their reaction could best be described as one of indifference! As a case in point, they were once put out in the pens for adoption with several pairs of geese that had lost their young. The geese appeared to be quite anxious to adopt them and quietly followed them around for quite sometime. But the goslings would have nothing to do with them, and the geese had to finally give up. Their initial impressions are strong and lasting.

Having failed with the adoption proceedings, they were left in the pens overnight with the geese. The next morning they were promptly returned to their own pen when one was found dead and another missing—the work of predators, probably an owl. None of the pen-reared goslings were harmed, which speaks for the protection afforded by the parent geese. From the twenty-one eggs, seventeen geese were eventually added to the decoy flock.

Shortly after the first geese were brought to the area, the farming program got underway. Ten acres of land adjacent to the goose enclosure were planted to winter wheat and rye. When planted in late August, these crops are lush and green by fall, and, providing they are not overgrazed, remain so throughout the winter and early spring. Geese, being primarily land grazers, are readily attracted to such vegetation



Left: one day out of the incubator. Right: Just a few minutes. Photo by author.

at a time of the year when little else is green and succulent.

In 1960 and 1961, the farming was carried out on about the same scale, but various other crops were planted, such as corn, buckwheat and pasture grass. In both years, there was a complete crop failure, and local geese had to turn to natural vegetation for their food.

On March 16, 1961, "The Upper Canada Migratory Bird Sanctuary" was officially established under The Migratory Birds Convention Act. In June of that year, the Department of Lands and Forests employed a biologist to be responsible for fish and wildlife management in the Parks.

One by one, the management requirements of the sanctuary were real-

ized, but there was still the problem of getting men and machinery to work the land. However, in 1964, the Advisory Committee established that, since the Parks Commission owned the land and had most of the necessary equipment and manpower, that it should be responsible for the land improvements and that the biologist would be responsible for planning the program.

Each year, the Parks Commission has acquired additional farming equipment. In 1961, the land under cultivation was increased from 15 to 100 acres. All of the fields had been laying idle for years and had grown up into just about every weed imaginable. Chemical sprays and cover crops, such as buckwheat, were used to smother out weeds. Many boulders had to be removed before



Farming is important. Here, 60 acres of corn are harvested. Photo by G. Smith.

effective farming could be undertaken.

Farming for Canada geese is distinct in many respects from other types of farming. Livestock, for example, can be confined to some fields and kept out of others. In this way, the farmer can control grazing and keep the animals away from crops. Not so with wild geese. They can fly into any field in any number and clean up a crop in nothing flat. If the crop has just come up and is intended for later grazing (as an early crop of White Dutch clover), the goose farmer may have to seed the

the field again.

Sometimes geese can be highly unpredictable, too. For instance, a field of rye planted near the pens was grazed down to the ground while a neighbouring field was left untouched.

One of the factors found to influence the feeding habits of geese in the fields is a brush fenceline or anything else that might obstruct their view of possible danger. Grazing geese normally left a 60-, to 100-foot border around these fields. Since the brush was removed during the past two winters,



Geese blend in well with pioneer setting, Upper Canada Village. Photo by G. Smith.

the fields have been more fully utilized.

In the past few years, a number of crops have been grown not only to determine what the geese find palatable, but also to see what crops could best be managed on the area. White Dutch clover, an early favorite, has continued to be the staple diet from spring to fall. This is supplemented with cob corn and fall wheat and rye pasture during the migration periods.

Like the development of the decoy flock and farming program, nesting facilities have also undergone a num-

ber of changes. Geese prefer islands on which to nest although they will nest along the shore when islands are not readily available. In an early attempt to provide nesting islands, baled hay structures were erected in shallow water areas. These were made by placing two bales across two other bales, staking the four to the bottom of the lake, and spreading part of a fifth bale on top.

Now this may sound simple enough, but, as some of the sportsmen involved in this little venture can testify, when taking a swipe at a "bobbing stake"

from a wave tossed boat, you sometimes wind up in the drink. Many did!

The trouble with these first structures was that they often fell apart from wave action and high water. None were used by the geese as nesting sites so it was "back to the drawing board" again.

The second type consisted of four steel fencepost stakes (driven into the mud) to which a wooden platform was affixed between one and two feet above water level. Two bales of hay were set on the platform and another bale was broken on top. These platforms proved to be more durable, and most were firmly in place a year later. The first year, only ducks used them (two blacks, one mallard). This year, however, geese nested on three of them. Unfortunately, on May 9, a storm of near hurricane force created waves large enough to wash the baled hay and nests from two of these platforms. The third nest, being in a more protected area, escaped damage but was abandoned, probably due to the disturbance of angler activity in the vicinity.

To avoid the damaging effects of waves, human traffic and water fluctuations, 20 nesting ponds have been constructed in low inland areas. Each pond contains a large earth island (in the centre) on which a dense grassy cover has been established. It is hoped that this will solve the nesting problem. The spring of 1965 should provide the answer.

The resident geese of Lake St. Lawrence are located at the eastern part of the sanctuary and at the Wilson Hill Game Management Area on the New York side of the lake. The latter area extends about two miles farther west

than the sanctuary and overlaps the western half of it.

Canada geese tend to return to the area in which they were raised. When they mature and raise young of their own, these, too, return and in this way a resident population becomes established.

The resident geese remain on Lake St. Lawrence from late March to mid-December (except for the pinioned decoy flock which stay all year). At present, it appears that they overwinter in Maryland from where seven bands have been returned. All of these returns were seven-, to eight-month-old juveniles; four were shot on December 29, 1962, and the others on January 10, 1964.

By 1963, the resident population on the lake had increased to 450 geese. Waterfowl counts showed no increase in 1964. The annual production of goslings on Canadian and U.S. sides of the lake from 1960 to 1964 was as follows:

YEAR	CANADIAN SIDE	U.S. SIDE
1960	18	--
1961	50	--
1962	36	150
1963	86	165
1964	50	196

It is apparent that on the American side of the lake the gosling production has risen steadily while on the Canadian side it has fluctuated from year to year and has remained low by comparison.

The reason for the difference appears to be water level control. The waters within the Wilson Hill Game Management Area are controlled at levels best suited for the development of aquatic plants and waterfowl. This was made possible by a series of dykes built by the New York State Power

AUTHOR'S PHOTOS SHOW FOUR TYPES OF NESTING SITES USED BY GEESE



Nesting Platform



Muskrat House in Pond.



Island, left of Clump of Weeds.



Beside Roadside Ditch.

Authority during seaway development. Almost all of the islands within the shallow waters are used by geese as nesting sites.

In comparison, the Ontario side has no such dykes to provide similar habitat. Plans for such dykes were made, but approval has never been granted for their construction. With a yearly water level fluctuation of approximately four to six feet, there is little in the way of desirable aquatic vegetation. Also, natural goose nesting islands are very few on the Canadian side of the lake. Due to the contours of the lake bottom, controlling the water at a shallow depth would not substantially increase the number of goose islands in the area. It would, however, be a relatively simple matter to build such islands in shallow water. It is hoped that controlled water levels may some day become a reality in parts of the sanctuary.

The migrant geese stop over in the St. Lawrence Parks during their spring and fall migrations. Peak months are April and November. The number of migrants has varied greatly from year to year. In the spring of 1960, less than a year after actual management work started, 2,500 Canada geese visited the goose management area and fed on the fields of winter wheat and rye planted the summer before. For some unknown reason, spring numbers have not been as great since. From 1961 to 1964, the numbers of both spring migrants and residents in the Parks have been respectively: 1,000, 1,100, 1,500 and 925. In contrast, the number of fall migrants have been steadily increasing each year. The peak numbers including resident geese

from 1961 to 1964, respectively, were: 129, 612, 980 and 1953.

The number of migrants in the flocks are estimated in two ways: by subtracting the number of resident geese observed in the Parks in August and early September from the number observed later in the fall, and by observing the number that take flight when approached (the resident geese become accustomed to people during the tourist season).

Based on these two methods, the number of migrants in the Parks each fall from 1961 to 1964 would be as follows: 35, 125, 530 and 1,500. Thus, the number has approximately tripled each year and we have every reason to believe it will continue to rise. This should be of particular interest to hunters since it is the fall population that determines the hunting potential.

While there has been a large increase in the number of fall migrants this year, there has also been a much higher goose kill, not only on the lake but over a large part of the Kemptville District. Kills have been reported from the South Nation River watershed, Rideau River, Lake St. Francis and the Hawksbury area along the Ottawa River. The contribution of sanctuary flocks to goose hunting in the District is unknown. It is hoped that, from banding, some useful information will be derived.

Since the beginning of the goose management program, the objectives have been: to provide the public with an opportunity to see large flocks of geese during the spring and fall migration and equally attractive family groups of resident geese throughout the summer months, and to provide sportsmen with

an opportunity to hunt geese in areas surrounding the sanctuary. In the Mississippi flyway where goose kills have been recorded for a long period of time, waterfowl managers have found that about 20 per cent of the flyway geese can be safely harvested without a decline in the overall population. Exact harvest figures for the Lake St. Lawrence flock will have to be based on similar long-term studies.

The ideal situation would be to provide hunters with that part of the population which, if removed, would be replenished by the breeding population that is left. For wildlife is a renewable natural resource and cannot be stockpiled. What man does not harvest nature often will—in the form of disease predation, etc. It is sound conservation, then, to harvest what nature otherwise would, and, in so doing, provide sport

for the thousands of waterfowl hunters who have long regarded Canada geese as trophy birds worthy of the skill and patience required to bag them.

Our goals have therefore been set, and some of the guideposts have been laid along the way to help us reach them. The decoy flock, farming program and nesting facilities have all been modified to suit the needs of the developing populations. It is hoped that newly constructed nesting ponds will give the resident population the shot in the arm it needs. While the number of spring migrants have fluctuated from year to year, fall populations of migrants have had close to a three-fold yearly increase since 1961. As a result, where goose hunting was once a rare event, it is now a common occurrence, and it is becoming increasingly better each year.

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A happy fisherman displays his catch of whitefish. Staff photo.

ICE FISHING IN LAKE SIMCOE

By A. S. Holder
Biologist, Lake Simcoe Forest District

Ice fishing as a sport is booming across Ontario. Nowhere is this more evident than on Lake Simcoe where 4,000 or more fishing huts dot the ice each winter. Local fishermen and those from many miles distant, alike, wait with impatience for the ice on the lake to reach a safe thickness for travel. From the time this occurs, usually early in January, until the ice breaks up in the spring, the lake is never without its complement of avid fishermen.

Ice fishing is not new to Lake Simcoe. McCrimmon, in his book, "Fishing in Lake Simcoe", reports an interesting early record attributed to the diary of George Head under the date, March 6, 1815. Head wrote that while skating on Lake Simcoe there was, at a distance on the ice what appeared to be a mound of earth thrown up as I approached within a few hundred yards, I thought I perceived it move a little I stood for some seconds thinking what I should do, and had almost determined to go home for my gun, when I saw the hide which caused all my speculation thrown suddenly aside to make way for the head and shoulders of an Indian..... he had so completely enveloped himself in a large buffalo skin that no part of his body, head, hands or feet were to be discovered. He sat over a square hole cut in the ice, with a short spear ready to transfix any fish which might be attracted to his bait..... the bait was an artificial fish of white wood, with leaden eyes and tin fins.....

The early white settlers quickly realized that the lake provided an excellent source of fresh meat during the winter months. This fishery, patterned after that of the Indians, largely in-

volved the use of spears for the taking of lake trout and whitefish from rude shelters built as protection against the wind. This method of taking fish continued relatively unchanged until near the end of the last century when legislation forbidding the use of spears for taking fish during the winter months was enacted. While there is some question as to whether this regulation actually curtailed spearing, nevertheless there was a resultant loss of interest in fishing as the anglers considered that the only effective means of catching fish had been abolished.

About this time, a new development occurred which was to have an important effect on the future of the winter fishery. Previously, it had been considered that whitefish could not be taken on a hook and line. However, when spearing was made illegal, it was soon discovered that if the hook (baited with a small minnow or other natural bait) was placed on the bottom, whitefish could be captured in large quantities. This change in fishing methods led to extensive harvest of whitefish which today is by far the most important fishery on the lake.

Fairly early in the development of this fishery, the value of ice huts was recognized. Typically, these huts are portable, wooden structures, approximately four feet by six feet with one or two fishing holes in the floor. Some of the huts, particularly those owned by commercial operators, are larger, accommodating several fishermen at a time, but these are generally less popular because of the difficulty in transporting them onto the ice. The huts are equipped with small wood or



Conservation Officer Harold Van Wych checks lake trout. Photo by R. Muckleston.

oil stoves, most of which are constructed at home from old oil or gasoline cans. Currently, most of the fishing on Lake Simcoe is done from these huts, and the comfort which they pro-

vide has done much to popularize the sport.

Several businessmen around the lake have developed a considerable trade in the rental of fish huts. These



Some of the 4,000 fishing huts on Lake Simcoe. Photo by Ted Jenkins.

enterprising individuals, realizing that many people (particularly those from distant points) would like to fish but would not wish to undertake the bother of owning a hut, located several huts on the best fishing grounds. For a modest fee, these operators provide the angler with fishing tackle, bait and transportation to and from the huts. This has proven a valuable service to anglers and has benefitted the local tourist industry by giving it a source of winter income.

The fish most commonly caught by winter fishermen in the lake today is the whitefish. This fish is widely distributed throughout the lake and is caught in depths of water ranging from five feet to over 90 feet but most frequently at approximately, 40 feet. Prebaiting is widely employed for the

capture of this species. In this technique, a quantity of bait, usually salted minnows or pre-softened grain, is dropped to the bottom beneath the hut from one to five days before the actual fishing trip is planned. This attracts and keeps a number of fish below the hole. Actual fishing is done at or near the bottom with a line baited with tiny live minnows, salted minnows or, less frequently, with a small artificial bait.

The whitefish is classified as a commercial species in Ontario. No creel limit is imposed and sale of the catch is legal. Hence, several local fishermen spend the entire winter season on the ice, catching these fish for local sale. These expert anglers frequently catch 50 or more fish on a successful day. Sport fishermen seldom achieve similar success. However, there is a great variability in catch



A fair catch of herring and whitefish at Duclos Point. Photo by R. Muckleston.

depending on the anglers' skill and knowledge of the habits of whitefish.

The lake trout is the second most sought-after fish. Traditionally, these fish are caught in 60 to 90 feet of water from huts located several miles from shore, although it is not uncommon for a trout to be taken on a whitefish bait in much shallower water. Various

artificial lures or larger live minnows are used for bait.

The creel limit for the lake trout on Lake Simcoe is two fish per day in recognition of its vulnerability to excessive harvest during the winter time. During some years, when trout school extensively and are easily caught, constant vigilance by conserva-

tion officers is necessary to protect this popular sport fish.

Lake herring and yellow perch are caught in large numbers, particularly in the shallow off-shore waters and in Kempenfeldt and Cook's Bays. Anglers seeking these species often fish from the shelter of their cars without benefit of an ice hut. While a large variety of baits are used, live minnows are most popular.

Pike, burbot or ling, and smelt are occasionally caught. Unfortunately, ling are not generally used as food and are usually discarded. Smelt have only recently appeared in the lake and undoubtedly will make up a greater part of the catch in the future.

The current status of the winter fishery can best be illustrated by the number of huts on the ice in recent years. During the winter of 1949-50, there were slightly less than 800 huts on the lake. In 1953-54, the number had increased to nearly 1,800 huts. By 1960, there were slightly more than 4,000 huts, and since this time there has been a levelling off at approximately this number.

This heavy winter fishing pressure, in conjunction with a considerable summer fishery, has raised several questions for the fishery biologist. Chief among these are: What is the actual take of fish by the winter fishery? Is exploitation during both the winter and summer likely to make serious inroads on the game fish of the lake?

The first question is the more easily answered. During the past several years, conservation officers have carried out an intensive creel census from January through March. For this census, the lake has been divided into 23 areas with each area normally being checked three times during the season. The day of the

week and the time during the season when an area will be checked are chosen at random. During a census day, the officer records the total number of huts on the area and checks all the occupied huts, recording the number of anglers, the hours spent fishing and the catch by species. These data, when combined for all areas for the entire season, enable us to arrive at an estimate of the total catch of fish for the entire winter season.

In the winter of 1963-64, 1,307 anglers reported fishing 6,203 hours for a catch of 3,002 fish of all species. This means that an average of two hours of fishing was required to catch a fish. When this is expanded to cover the entire season, it is calculated that over 350,000 man-hours were spent angling for a catch of approximately 172,000 fish. The season's harvest was estimated to be 93,100 whitefish, 2,360 lake trout, 51,500 lake herring, 23,500 perch, 1,200 burbot and 224 smelt.

The second question, the effect of this harvest on sport fish populations in the lake, is more difficult to determine. More information on the population dynamics of the fish in the lake is needed before any definite answers will be forthcoming. To obtain some of these answers, the Department of Lands and Forests has recently established a fisheries management unit on the lake. A biologist and a fisheries management officer have been assigned to work exclusively on the lake and are now stationed at Sibbald Point Provincial Park near Sutton.

Even with this increased Departmental effort, little can be accomplished without the public's interest and co-operation. It is hoped that, with continued support in the future, the excellent quality of fishing in Lake Simcoe may be maintained.

PUBLIC FISHING PONDS FOR TROUT

By D. R. Johnston

Fish and Wildlife Supervisor, Lake Huron Forest District

The development of intensively managed public fishing areas is a relatively recent innovation by the Department of Lands and Forests in southern Ontario. During the past several decades and especially during recent years, the growth and spread of industry, particularly in and around urban areas, has cut deeply into our natural water resources. One of the most obvious and detrimental effects has been the significant reduction in the number and quality of trout fishing waters. The posting of private property has also tended to aggravate the situation, with the result that fewer and fewer fishing areas are available and the need for such areas is recognized.

One such public trout fishing area in southern Ontario is a five-acre pond on the Provincial Forestry Station property near St. Williams in Norfolk County. Prior to 1963, this pond sustained a moderate fishing pressure each year. Several factors adversely affected its full potential. Large, overhanging trees, combined with steep banks, did not lend themselves readily to public access. Over the years, this pond became a settling basin for silt from Dedrick Creek and was becoming extremely shallow, particularly at the upper end. This shallowness and the clarity of the water during mid-summer combined to produce an abundance of submergent aquatic vegetation which virtually choked the pond each year. Because of the dense vegetation, the pond was seldom used by the angling public.

As part of the program to stimulate better use of land and waters in public ownership, this pond was rejuvenated

to create better trout fishing conditions. During the early part of 1963, the face lifting program began. The 1800-foot-long pond was drained and divided into two main work areas. The upper section was deepened to approximately six feet while the lower part was excavated to a depth varying from eight to ten feet. At the junction of these areas, an island was constructed. As the drag lines removed the accumulated silt, it was deposited on either side of the pond, forming jetties along the shoreline. These artificially constructed banks varied in width, depending on the amount of silt taken from the pond in that area, but overcame one of the major problems which plagued the pond—access. It is now possible for an angler to ply his favourite piece of fishing tackle on the pond, whether it be fly fishing or spin casting, without interference from the surrounding trees.

It was also found that these areas were suitable for family picnicking. The pond was flooded and 3,500 7-to 13-inch brook trout were stocked prior to the opening of the trout season on April 27th. As early as 9 p.m. on the eve of the opening, anglers began arriving, and by dawn of opening day hundreds lined the banks.

Creel census information collected on the opening weekend indicated that more than 1,300 anglers fished in St. Williams pond, harvesting over 1,500 of the 3,500 fish stocked. Anglers found excellent trout fishing in the tailwaters on opening weekend and in the stream above the pond as well as in the pond itself. Some of the 3,500 trout (during a sudden rainstorm a week



A view of the reclaimed pond at St. Williams, showing the artificially constructed island and access banks. Photo by A. Goodwin.



A trout is jaw-tagged at St. Williams. Photo by A. Goodwin.

before the opening) escaped over the dam when it was partially opened to relieve the flood threat to it.

No formal creel census program was undertaken, except on the opening weekend, but a system of recording the season—long exploitation of trout by anglers was devised. This was necessary in order to manage the stocking program for the area. One in every 10 trout was marked with a serially numbered, monel metal jaw tag. On the assumption that tagged fish are as vulnerable to angling as non-tagged fish, it could be assumed that, for every tag returned by the angler, 10 fish had been captured.

Experience has shown that the time to obtain tag returns is on the

fishing site. Therefore, five signs, requesting that fish tags be deposited in an attached padlocked box, were erected. As an incentive for the angler to co-operate, the signs indicated that, for every 100 tags returned, 1,000 trout would be re-stocked in the pond. This system worked exceedingly well. Tag returns for the summer showed that 75 per cent of the planted fish were harvested.

It was estimated by Forestry Station personnel that more than 22,000 angler-days were spent at the pond during the 127-day trout fishing season in 1963. Fishing pressure was extremely heavy during late April, May and early June when an average of 340 persons utilized the pond daily. As the summer



Anglers at St. Williams pond. Photo by A. Goodwin.



Restocking at St. Williams to keep ahead of the anglers. Photo by A. Goodwin.



One of five signs near pond. The message was effective. Photo by A. Goodwin.

progressed, the number declined to as low as 30 per day during late August. In total, over 5,300 of the 7,100 trout stocked were harvested.

Some interesting figures were obtained from the tag return information; for example, 67 per cent of the trout planted in late April and May were harvested within two weeks, with a total recovery of 76.6 per cent over the entire season. Of the fish planted in June, 44 per cent were harvested

in two weeks and 64 per cent by the end of the season. The highest return to the angler was 86 per cent of 1,000 trout planted during early May, and the lowest was 63 per cent of 600 planted during mid-June. Under similar conditions in 1964, tag returns indicated that over 68 per cent of the 6,500 fish planted were harvested. These estimates of fish creel are minimal figures. Some tags were not recovered for various reasons, such as fish losing their tags in the pond and anglers



Interest runs high with anglers at St. Williams. Photo by the author.



The Gibson Creek Trout Rearing Station near Normandale. Photo by A. Goodwin.

failing to return tags. Thus, over 75 per cent of fish planted could be expected to be caught each year.

With the overwhelming public acceptance of the St. Williams operation, other ponds were set up on a similar basis. The Schoolhouse pond located near Normandale, although much smaller, offers a great deal of angling enjoyment, as does the recently constructed pond on the Big Creek Conservation Authority property, four miles south of Glen Meyer. The latest "put and take" trout fishing ponds to be added

to the list are the recently renovated ponds located on the former fish hatchery property at Mt. Pleasant. These ponds were operated for several years, using warm water fish species. They will be in operation and ready to supply trout fishing to the angling public, come opening day of trout season, 1965. So, if you have a yen to take the family trout fishing, don't hesitate. We won't guarantee you a limit every time, but we will guarantee an enjoyable day spent in healthful, outdoor recreational pursuits.



Brook trout often run to 13 inches at St. Williams. Back Cover: Fishing was good below the pond, too. Photos by A. Goodwin.

